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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/460,960	12/14/1999	MATTHEW ZAVRACKY	0717.1128001	3174

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EXAMINER

NGUYEN, KIMNHUNG T

ART UNIT

PAPER NUMBER

2674

DATE MAILED: 04/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/460,960

Applicant(s)

ZAVRACKY ET AL.

Examiner

Kimmhung Nguyen

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4, 6-18, 20-31 and 86-89 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-18, 20-31 and 86-89 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

This Application has been examined. The claims 1-4, 6-18, 20-31 and 86-89 are pending. The examination results are as following.

#### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 6-18, 20-31 and 86-89 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jacobsen et al. (US patent 6,232,937) in view of Helms (US patent 5,952,992).

Regarding claims 1-2, 14, and 18, 86-89, Jacobsen et al. disclosed that an method of displaying an image on a liquid crystal display (see abstract) having a plurality of pixel electrodes (see column 6, lines 39-46); writing an image to the display such that the liquid crystal moves to an image position (see column 9, lines 56-65); and a inherent selecting a light source based on the ambient light level (because in the night the LED of red always attracts to person's vision than LED of blue); flashing a light source (1111) to illuminate the display (see figures 2G and 2F), column 10, lines 52-65); and repeating the writing, flashing, and setting steps to produce a sequence of a images (see column 9, lines 15-28, and column 10, lines 20-41). However, Jacobsen et al. do not disclose an adjusting the brightness of light source for the flashing, the brightness being dependent on the detected ambient light level with a sensor. Helms discloses a method and apparatus for

Art Unit: 2674

automatically adjusting the brightness level of an LCD based on ambient lighting conditions of the environment in which LCD is being operated (see figure 2, see abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the automatically adjusting the brightness level of an LCD based on ambient lighting conditions as taught by Helms in the device as taught by Jacobsen et al. because this would enable the user manually to adjust the brightness level of the LCD at any given time.

3. Regarding claims 3 and 15, Jacobsen et al. disclose that wherein the liquid crystal is an active matrix display having at least 75,000 pixel electrodes and having an active area of less than 160mm square (see claim 1).
4. Regarding claims 4 and 17, Jacobsen et al. disclose hat wherein the liquid crystal display is transmissive and the light source is a backlight (1111,see figures 2G, 2F, column 10, lines 32-35).
5. Regarding claim 16, Jacobsen et al. disclose in figures 2G and 2F that wherein the light source has at least one light emitting diode (LED 1111

Regarding claims 6-8, Jacobsen et al. disclose that the step of switching the voltage of the counter electrode after each flashing of the light source and prior to the next writing of the image (see column 11, lines 36-42), and the voltage to each pixel electrode is done sequentially starting at one corner and progressing until ending the opposite corner (see column 11, lines 51-54).

Art Unit: 2674

6. Regarding claims 9-13, and 20, Jacobsen et al. disclose that a method further comprising the step of waiting a setting time to allow the liquid crystal to twist between the writing of the last pixel and the flashing of the light source (see figure 21, column 12, lines 42-53) and the display is accomplished by writing a plurality of pixel electrodes simultaneously (see claim 1), and the method further comprising a process to discharge the storage capacitor of the pixel (see column 11, lines 18-30).
7. Regarding claims 21, 89, Jacobsen et al. disclose that an active matrix liquid crystal display comprising an active matrix circuit having an array of transistor circuit formed in a first plane, each transistor circuit being connected to a pixel electrode in an array of pixel electrodes; an integrated circuit display controller connected to the active matrix circuit, the controller including a read memory, a write memory and a timing control circuit; a counterelectrode panel extending in a second plane that is parallel to the first plane, such that the counterelectrode panel receives an applied voltage; and a liquid crystal layer interposed in a cavity between the two planes (see figure 2B, see claims 1 and 8, and see column 8, lines 25-45). However, Jacobsen et al. do not disclose an array of pixel electrodes having an area of 200mm squares or less. From the claim, it would have been obvious for Jacobsen et al.'s system to have the an array of pixel electrodes having an area of 200mm squares or less as claimed since such a modification would have involved a mere change in range of a system. Note of Jacobsen et al. disclose that an array of pixel electrodes having an area of less than 160mm (see claim 18). A change in range is generally recognized as being within the level of ordinary skill in the art. See In re Rose, 105 USPQ 237 (CCPA 1995) and

See In re Reven, 156 USPQ 697 (CCPA 1968).

8. Regarding claims 22-31, Jacobsen et al. teach generally all the limitation as discussed in claim 21. Furthermore, Jacobsen et al. disclose the active matrix crystal display comprising circuit for setting voltage of the pixel electrodes to the voltage of the counterelectrode to each subframe (see column 12, lines 29-41); further comprising circuit to heat the liquid crystal display (see column 11, lines 66-67); a sensor interposed between the substrates to monitor a property of the liquid crystal (see figure 2F, column 11, lines 43-45, and see claim 3); and wherein the writing of the image to the display by setting the voltage to each pixel electrode is done sequentially starting at one corner and progressing until the opposite corner (see column 11, lines 51-45); and wherein the property that is measured is the temperature of the liquid crystal (see claim 19); Jacobsen et al. also disclose that the property that is measures is the capacitance of the liquid crystal (see column 11, lines 18-30). However, Jacobsen et al. do not disclose that wherein the array of transistor circuits are formed on an oxide layer and layer is thinned at the pixel electrodes. From the claim, it would have been obvious for Jacobsen et al.'s system to have the array of transistor circuits are formed on an oxide layer and layer is thinned at the pixel electrodes as claimed since such a modification would have involved a mere change a material of a system. Note of Jacobsen et al. disclose that the array of transistor circuits are formed over a silicon-on an insulator (SIO) structure oxide layer and layer is thinned at the pixel. A change in material is generally recognized as being within the level of ordinary skill in the art.

See In re Rose, 105 USPQ 237 (CCPA 1995) and

Art Unit: 2674

See In re Reven , 156 USPQ 697 (CCPA 1968).

***Response to arguments***

9. Applicant's arguments filed on 3-17-04 have been fully considered but they are not persuasive.

Applicant argues that Jacobsen et al. do not teach “a selecting a light source based on the ambient light level”. However, examiner respectfully disagrees with the argument because in the night the LED of red always attracts to person's vision than LED of blue as discussed above.

***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimnhung Nguyen whose telephone number (703) 308-0425.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **RICHARD A HJERPE** can be reached on **(703) 305-4709**.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D. C. 20231

**Or faxed to:**


**(703) 872-9314 (for Technology Center 2600 only).**

Art Unit: 2674

Hand-delivery response should be brought to: Crystal Park II, 2121 Crystal Drive,  
Arlington, VA Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding  
should be directed to the Technology Center 2600 Customer Service Office whose telephone  
number is (703) 306-0377.

Kimnhung Nguyen  
March 31, 2004



RICHARD HJERPE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600